1   **Amendments to the Claims:**

2   This listing of claims will replace all prior versions, and listings, of claims in the

3   application.

4

5   **Listing of Claims:**

6

7   Claim 1 (currently amended): An apparatus for providing a variable flow of

8   liquid, comprising:

9

10   a. an AC permanent magnet synchronous motor pump controller

11   comprising a programmable micro-controller with means generating AC pulse

12   switching signals applied to said motor pump for varying the flow rate of an AC

13   permanent magnet synchronous said motor pump over an extended range of

14   flow rates in accordance with said AC pulse switching signals applied to said

15   motor pump, further comprising means setting the frequency of said AC pulse

16   switching signals for obtaining a given speed of said motor pump, wherein said

17   speed is synchronous to said frequency for all realizable speeds of said motor

18   pump, and further comprising means setting the pulse width of said AC pulse

19   switching signals in relation to said frequency for a given motor speed in order to

20   maintain constant and continuous flow for any given realizable speed of said

21   motor pump; and

22

23   b. a programmable micro-controller incorporated into said controller,

24   comprising means calculating in a related manner both the pulse width and

25   frequency of said AC pulse switching signals for synchronously controlling said

26   motor pump over an extended range of flow rates; and

27

1   ((c))b. an output switching circuit incorporated into said controller[[,]]

2   comprising means for generating an said AC pulse waveform switching signals

3   and for driving said motor pump according to in direct synchronization with the

4   frequency of said AC pulse switching signals.

5

6   Claim 2 (cancelled)

7

8   Claim 3. (currently amended):The apparatus of Claim 1[[2]], further comprising

9   an AC permanent-magnet synchronous motor pump with means defining a rotor

10   and impeller assembly integrally coupled to said motor pump, wherein said

11   assembly is comprised of a rotor and an said impeller are immersed in a

12   common liquid medium, wherein said rotor and said impeller are concentric and

13   wherein said assembly rotor and said impeller has means defining a rigid

14   coupling between said rotor and said impeller are rigidly and fixedly coupled to

15   for preventing relative rotation of said impeller with respect to said rotor, for

16   insuring that said motor pump will reliably start rotation when energized with said

17   controller and for preventing impeller chatter when said motor pump is driven

18   with said controller over a range of realizable rotation rates.

19

20   Claim 4 (previously presented): The apparatus of Claim 1, further comprising a

21   mode switch for choosing the mode of operation of said micro-controller, wherein

22   the mode of operation is selected from a group comprised of a programmed flow

23   control variation mode, an audio input mode, a manual mode and an external

24   data input/output mode.

25

26   Claims 5-6 (canceled)

27

28

1   Claim 7 (previously presented): The apparatus of Claim 1 further comprising:

2

3   a. audio circuitry with means varying the flow rate of an AC permanent

4   magnet synchronous motor pump in proportion to a signal from a microphone or

5   an external audio input, wherein said circuitry further comprises an amplifier with

6   a first potentiometer for varying said amplifier's gain and a detector circuit for

7   providing a varying DC level to an analog to digital converter for input into said

8   micro-controller; and

9

10   b. a second potentiometer coupled to said analog to digital converter for

11   adjustment of operational parameters dependent on the switch position of said

12   mode switch.

13

14   Claim 8 (currently amended): The apparatus of Claim 1, further comprising a line

15   receiver/transmitter for interfacing an external ~~data input/output~~ DMX control

16   signal to said micro-controller.

17

18   Claim 9 (cancelled)

19

20   Claim 10 (currently amended): The apparatus of Claim 1, further comprising a

21   software program embedded in said micro-controller for controlling the behavior

22   of said motor pump with said software program comprising means deriving in a

23   related manner the pulse width and frequency of control signals to be applied to

24   said output switching circuit and further comprising means generating said

25   control signals in such a manner as to produce said AC pulse switching signals

26   at the output of said switching circuit as required to synchronously drive said

27   motor pump at the frequency of said AC pulse switching signals and with said AC

28   pulse switching signals having a pulse width as required to maintain

1 synchronization of said motor pump with said AC pulse switching signals over all

2 realizable speeds.

3

4 Claim 11 (original): A controller for varying the flow rate of an AC permanent-

5 magnet synchronous motor pump comprising:

6

7   a. a mode switch for selecting the mode of operation of the controller from

8   a group comprised of a programmed flow control variation mode, an audio

9   input mode, a manual mode and an external data input/output mode;

10

11   b. a programmable micro-controller for calculating the pulse width and

12   frequency timing for generating pulse switching signals to control said

13   pump; and

14

15   c. an output switching circuit for generating a pulsed waveform for driving

16 said pump according to said pulse switching signals.

17

18 12 (currently amended): The apparatus of Claim [[2]]3 further comprising a

19 fountain directly coupled to said AC permanent magnet synchronous motor pump

20 for generating variable water patterns comprising:

21

22   a. at least one fountain element comprised of a water inlet and one or

23 more water outlets for the flow of water.

24

25 Claim 13 (previously presented): The audio circuitry and analog to digital

26 converter of Claim 7, further comprising rectifier circuitry for converting

27 alternating current to direct current for driving said audio circuitry and said analog

28 to digital converter.

1

2   Claims 14-15 (canceled)

3